



**State Water Resources Control Board  
Regional Water Quality Control Boards**



1001 I Street, Sacramento, 916-341-5127 – email: [personnel@waterboards.ca.gov](mailto:personnel@waterboards.ca.gov)

**ENVIRONMENTAL SCIENTIST EXAMINATION  
INTRODUCTION**

The State Water Resources Control Board's, Environmental Scientist (Range A, B, and C) examination consists entirely of a **TRAINING AND EXPERIENCE EXAMINATION** which will be used to evaluate your education, training, experience and familiarity with or understanding of a particular subject or task. Candidates who meet the minimum qualifications as listed in the examination bulletin may take this examination. Meeting the minimum qualifications **does not** assure you a place on the eligible list.

**All competitors who are successful in this examination will be eligible to be considered for a job opening with the State Water Resources Control Board and the nine (9) Regional Water Quality Control Boards. The eligible list consists of 3 ranks and will remain in existence for 1 year.** Once your eligibility expires, you must reapply by submitting a new examination. Please be aware that placement on the eligibility list does not guarantee that you will be selected for a job opening.

As this examination is administered on a periodic basis, **candidates may participate only once during a 12 month period.** Therefore, if you are unsuccessful in this examination, you must wait 12 months to re-compete. If a candidate submits a second examination prior to the expiration of the 12 months, it will not be accepted.

**Your responses are subject to verification.** Applicants successful in this examination will be required to provide to the Personnel Office documentation of all education (transcripts and a diploma verifying your major field of study) and other documentation necessary to verify your responses. Providing false information on a State examination is a violation of State law, and could result in an individual being removed from an employment list and banned from future employment with the State.

**Veteran's Preference Points** – Are you a veteran, disabled veteran, spouse of a disabled veteran or widow of a veteran and have not previously been a permanent State of California employee? You may obtain a Veteran's Preference Eligibility form by accessing the State Personnel Board's website at [www.spb.ca.gov/jobsgen/formsrd.cfm](http://www.spb.ca.gov/jobsgen/formsrd.cfm) or by calling 916-341-5127. Instructions on how to apply for the additional points are on the form.

**Contact Information** – You are responsible for keeping your contact information up to date. If you do not respond to an invitation for a job interview your name will be placed inactive on the eligible list and you will not be contacted for future interviews until you request that it be restored. If you do not respond to any combination of three invitations for interview or three offers of a job, your name will be permanently removed from the eligible list.

**To update your name, address, phone number or location preference** you must put your request in writing by either e-mail to the address above or fax your request to 916-341-5112.

***(Please note: These changes MUST be made in writing and cannot be made by phone.)***

**RETAIN THIS PAGE FOR YOUR RECORDS**

## ENVIRONMENTAL SCIENTIST

### SUPPLEMENTAL APPLICATION AND EXAMINATION

Thank you for your interest in California State civil service employment. The State of California is an Equal Employment Opportunity Employer. The Environmental Scientist examination will consist of a supplemental application/examination, which will be used to evaluate your knowledge, experience, education, training, familiarity or understanding of a particular subject or issue.

This is a scored test and will account for 100% of your score. It is important that you fill the examination out completely and accurately. **YOUR RESPONSES ARE SUBJECT TO VERIFICATION.**

To process your application and conform to requirements for statistical information from a number of State and Federal agencies, we need your Social Security Number, age, ethnic, disability, and gender information.

LAST NAME: \_\_\_\_\_ FIRST NAME AND MI: \_\_\_\_\_  
Please Print Please Print

STREET ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP CODE: \_\_\_\_\_  
Please Print

HOME PHONE: ( ) -

SOCIAL SECURITY #: \_\_\_\_\_

(Providing your Social Security Account Number is voluntary in accordance with the Federal privacy act of 1974 (PL-93-579). In this exam, your Social Security Number is required to process applications for Veteran's Preference Points, check for eligibility to retake the examination, and verify statements regarding prior employment. Your Social Security Number is used as your identification number for all exams. Failure to provide your SSN could result in substantial delays in establishing your eligibility for employment.)

This question applies to individuals who have been previous State of California employees. Rule 211 provides that a DISMISSED State employee (an employee who previously worked for the State of California and was dismissed) may only participate in State Civil Service examinations if he or she has obtained prior consent from the State Personnel Board. If this pertains to you, do you have written permission from the State Personnel Board Executive Officer to take this examination?

☐ Yes (**Letter of permission must be attached**) ☐ No ☐ Not Applicable

IF YOU WERE DISMISSED AND DO NOT HAVE PERMISSION FROM THE EXECUTIVE OFFICER OF THE STATE PERSONNEL BOARD TO TAKE THIS EXAMINATION, STOP HERE! DO NOT TAKE THIS EXAMINATION! You must receive permission and attach letter to this examination.

#### THIS AFFIRMATION MUST BE COMPLETED:

I hereby certify and understand that the information provided by me on this questionnaire is true and complete to the best of my knowledge and contains no willful misrepresentation or falsifications. I also understand that if it is discovered that I have made any false representations I will be removed from the list resulting.

Signature (REQUIRED) \_\_\_\_\_

**RETURN ALL COMPLETED FORMS AND THE EXAMINATION TO:**

**SWRCB Personnel Office  
1001 I Street, 18<sup>th</sup> Floor  
Sacramento, CA 95814**

**YOUR EXAMINATION RESULTS WILL BE MAILED TO YOUR HOME.**

## AGE, ETHNICITY, AND DISABILITY FORM

**The information collected on this page will be filed separately and only used for the purposes specified.**

To aid the State of California in its commitment to equal employment opportunity, all applicants are asked to voluntarily provide gender, age, ethnic, and disability information for statistical analysis.

### Age - Select the age group that corresponds to your age

- |                                     |                                    |                                    |  |
|-------------------------------------|------------------------------------|------------------------------------|--|
| 1 <input type="checkbox"/> Under 21 | 3 <input type="checkbox"/> 30 - 39 | 5 <input type="checkbox"/> 50 - 59 | 7 <input type="checkbox"/> 70 and over |
| 2 <input type="checkbox"/> 21 - 29  | 4 <input type="checkbox"/> 40 - 49 | 6 <input type="checkbox"/> 60 - 69 |  |

**Specify your gender:**      ☐ Male      ☐ Female

### Specify your ethnicity

- 1 ☐ **Black**—Persons having origins in any of the black racial groups of Africa.
- 2 ☐ **Asian**—Persons having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian Subcontinent. This includes China, Japan and Korea.
- 4 ☐ **Hispanic**—Persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
- 5 ☐ **White**—Persons having origins in any of the original peoples of Europe, North Africa, or the Middle East.
- 6 ☐ **Pacific Islander**—Persons having origins in the Pacific Islands, such as Samoa.
- 7 ☐ **American Indian or Alaskan Native**—Persons having origins in any of the tribal peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition.  
ENTER TRIBAL IDENTIFICATION OR AFFILIATION \_\_\_\_\_
- 8 ☐ **Filipino**—Persons having origins in any of the original peoples of the Philippine Islands.
- 3 ☐ **Other**—Not Listed  
(specify) \_\_\_\_\_

- Y ☐ **DISABLED**—A person with a disability is an individual who (1) has a physical or mental impairment that substantially limits one or more life activities, such as walking, speaking, breathing, performing manual tasks, seeing, hearing, learning, caring for oneself or working,...; (2) has a record of such an impairment; or (3) is regarded as having such an impairment.

---

### HOW DID YOU LEARN OF THIS EXAMINATION?

- ☐ TELEPHONE JOB LINE
- ☐ ADVERTISEMENT IN \_\_\_\_\_
- ☐ WORD OF MOUTH
- ☐ EXAMINATION BULLETIN LOCATED AT \_\_\_\_\_
- ☐ INTERNET

**THANK YOU FOR COMPLETING THIS QUESTIONNAIRE**

**YOUR NAME (PLEASE PRINT):** \_\_\_\_\_

### LOCATION PREFERENCE

Please indicate ANY and ALL locations where you would like to work by marking the box(s).

☐ – **All locations (If checked, no further selections will be necessary)** <sup>(5)</sup>

- ☐ – **State Board** Sacramento (3400)
- ☐ – **Region 1** Santa Rosa (4905)
- ☐ – **Region 2** Oakland (0110)
- ☐ – **Region 3** San Luis Obispo (4000)
- ☐ – **Region 4** Los Angeles (1900)
- ☐ – **Region 5** Sacramento (3400)
- ☐ – **Region 5F** Fresno (1000)
- ☐ – **Region 5R** Redding (4504)
- ☐ – **Region 6S** South Lake Tahoe (0903)
- ☐ – **Region 6V** Victorville (3627)
- ☐ – **Region 7** Palm Desert (3307)
- ☐ – **Region 8** Riverside (3311)
- ☐ – **Region 9** San Diego (3700)



### INDICATE THE TYPE OF APPOINTMENT YOU WILL ACCEPT

(Please indicate ANY and ALL that apply by marking the box.)

- ☐ Permanent Full Time <sup>(D)</sup>
- ☐ Other Than Permanent Full Time <sup>(R)</sup>
  - Part Time (Regular hours less than 40)
  - Limited Term (Up to 24 months)
  - Intermittent (On-call and hourly - not more than 1500 hours per year)
- ☐ Will Consider All Types of Employment <sup>(A)</sup>

**YOUR NAME (PLEASE PRINT):** \_\_\_\_\_

### **MINIMUM QUALIFICATIONS SECTION**

You are **REQUIRED** to complete the following section. To continue with this examination, you must meet the minimum requirements for the classification of Environmental Scientist detailed in the examination announcement. If you indicate “none of the above” to the minimum qualification questions in this section, do not continue with this examination.

### **REQUIREMENTS FOR ADMITTANCE TO THE EXAMINATION**

**NOTE: All applicants must meet the education requirements for this classification prior to submitting this examination.**

**Education:** Possession of a bachelor’s or advanced degree with a major in a biological, chemical, physical, or environmental science or a closely related scientific discipline. (Admission to a masters or doctoral degree program in a biological, chemical, physical, or environmental science, or a closely related scientific discipline shall be considered to meet these education qualifications.)

Registration as a senior in a recognized institution will admit applicants to the examination, but they must produce evidence of a degree before they can be considered eligible for appointment.

### **INDICATE ALL THAT APPLY**

- ☐ Registered Senior.
- ☐ Bachelor’s degree in one of the majors listed below.
- ☐ Master’s Degree in one of the majors listed below.
- ☐ PHD in one of the majors listed below.

### **APPROVED COLLEGE DEGREES**

(Please mark your degree(s) below)

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Agriculture             | <input type="checkbox"/> Environmental Toxicology     | <input type="checkbox"/> Oceanography                              |
| <input type="checkbox"/> Agronomy                | <input type="checkbox"/> Epidemiology                 | <input type="checkbox"/> Plant Pathology                           |
| <input type="checkbox"/> Aquatic Biology         | <input type="checkbox"/> Fisheries                    | <input type="checkbox"/> Plant Physiology                          |
| <input type="checkbox"/> Aquatic Ecology         | <input type="checkbox"/> Fisheries Management         | <input type="checkbox"/> Public Health                             |
| <input type="checkbox"/> Biochemistry            | <input type="checkbox"/> Forestry                     | <input type="checkbox"/> Science/Engineering (PHD program at UCLA) |
| <input type="checkbox"/> Biological Conservation | <input type="checkbox"/> Geology                      | <input type="checkbox"/> Silviculture                              |
| <input type="checkbox"/> Biological Science      | <input type="checkbox"/> Horticulture                 | <input type="checkbox"/> Soil Physics                              |
| <input type="checkbox"/> Biology                 | <input type="checkbox"/> Human Biology                | <input type="checkbox"/> Soil Science                              |
| <input type="checkbox"/> Botany                  | <input type="checkbox"/> Hydrology Hydrogeology       | <input type="checkbox"/> Soils and Irrigation                      |
| <input type="checkbox"/> Chemistry               | <input type="checkbox"/> Limnology                    | <input type="checkbox"/> Soil and Water Science                    |
| <input type="checkbox"/> Crop Science            | <input type="checkbox"/> Marine Biology               | <input type="checkbox"/> Toxicology                                |
| <input type="checkbox"/> Earth Science           | <input type="checkbox"/> Marine Environmental Science | <input type="checkbox"/> Water Quality                             |
| <input type="checkbox"/> Ecology                 | <input type="checkbox"/> Marine Sciences              | <input type="checkbox"/> Water Science                             |
| <input type="checkbox"/> Entomology              | <input type="checkbox"/> Microbiology                 | <input type="checkbox"/> Watershed Management                      |
| <input type="checkbox"/> Environmental Health    | <input type="checkbox"/> Natural Resources Management | <input type="checkbox"/> Wildlife Management                       |
| <input type="checkbox"/> Environmental Science   | <input type="checkbox"/> Natural Resources Sciences   | <input type="checkbox"/> Zoology                                   |
| <input type="checkbox"/> Environmental Studies   | <input type="checkbox"/> Ocean Sciences               | <input type="checkbox"/> Other Related: _____                      |
- ( \_\_\_\_\_ )  
Emphasis

Please identify the name and location of the College or University you attended:

---

Name of College or University

Address

## EXAMINATION FOR ENVIRONMENTAL SCIENTIST

### TECHNICAL SKILLS

USE THE FOLLOWING RATINGS TO RESPOND TO THE NEXT THREE QUESTIONS.

- A. I am proficient in the use of advanced features.
- B. I am proficient in the use of basic features.
- C. I have minimal or no knowledge.

**Not answering a question will be scored as an “I have minimal or no experience with the following products” answer.**

IN YOUR RESPONSES YOU MAY INCLUDE COLLEGE COURSES, AND PAID, OR  
VOLUNTARY WORK EXPERIENCE

#### COMPUTER SKILLS

**1. Spreadsheet software**

- ☐A. I am proficient in the use of advanced features.
- ☐B. I am proficient in the use of basic features.
- ☐C. I have minimal or no knowledge.

**2. Database software**

- ☐A. I am proficient in the use of advanced features.
- ☐B. I am proficient in the use of basic features.
- ☐C. I have minimal or no knowledge.

**3. Word processing software**

- ☐A. I am proficient in the use of advanced features.
- ☐B. I am proficient in the use of basic features.
- ☐C. I have minimal or no knowledge.

USE THE FOLLOWING RATINGS TO RESPOND TO ALL REMAINING QUESTIONS.

- A. I am technically proficient to the point where I can perform this task independently.
- B. I have received education or training but would need guidance to perform the task.
- C. I have received little or no education or training in this task.

**Not answering a question will be scored as an “I have received little or no education or training in this task” answer.**

IN YOUR RESPONSES YOU MAY INCLUDE COLLEGE COURSES, AND PAID, OR  
VOLUNTARY WORK EXPERIENCE

#### GENERAL KNOWLEDGE

**1. Participate in public meetings to inform interested persons and groups about environmental issues.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**2. Analyze and interpret scientific literature.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**3. Assessing quality of environmental data.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**4. Application of the principles of environmental ecology.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**5. Application of statistical methods of analysis.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**6. Principles of land use practices with reference to their general effect on human health and the environment.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**7. Principles of land and water resources research.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**BIOLOGICAL/HABITAT EVALUATION**

**8. Botanical field studies.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**9. Wildlife field investigations.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**10. Fisheries stream surveys (habitat evaluation).**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**11. Design of an ecological risk assessment.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**12. Perform an ecological risk assessment.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**13. Review an ecological risk assessment.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**WETLAND DELINEATIONS**

**14. Perform wetland delineations according to federal guidelines.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**15. Develop a wetland monitoring program.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**16. Develop any aspect of wetland mitigation, restoration, or enhancement plans.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**THREATENED OR ENDANGERED SPECIES**

**17. Use of Department of Fish and Game Rare Find Database.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**18. Conduct field investigations for threatened or endangered species.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**19. Develop mitigation measures and/or plans for threatened or endangered species.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.



## **SURFACE WATER**

### **20. Develop a surface water sampling plan.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

### **21. Collect surface water samples.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

### **22. Ability to identify the difference between a sewer system and a storm drain system.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

### **23. Ability to identify the types of pollution that commonly enter storm drains.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

### **24. Ability to identify storm water discharges and associated impacts on human health and/or the environment.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

### **25. Ability to identify the components that contribute to sources of pollutants in surface runoff.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

### **26. Ability to identify the components that contribute to sources of pollutants in agricultural runoff.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

### **27. Ability to identify the components that contribute to sources of pollutants in timber harvest activities.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**28. Ability to identify impacts of chemicals on surface waters (lakes, estuaries, bays, streams, etc) and aquatic life.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**29. Ability to identify impacts of bacteria/coliform on surface waters (lakes, estuaries, bays, streams, etc) and aquatic life.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**30. Ability to identify impacts of nutrients on surface waters (lakes, estuaries, bays, streams, etc) and aquatic life.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

## **GROUNDWATER**

**31. Develop a groundwater monitoring plan.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**32. Collect groundwater samples.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**33. Measure groundwater elevation.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**34. Draw groundwater elevation contours.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**35. Determine hydraulic conductivity.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**36. Slug testing in the field for hydraulic conductivity.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**37. Pump tests in the field for hydraulic conductivity.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**38. Review groundwater analytical data.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**WATERSHED MANAGEMENT**

**39. Develop a study design for identifying sources of pollutants within a watershed.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**40. Develop recommendations or planning tools for pollutant reduction in a watershed.**

- ☐A. I am technically proficient to the point where I can perform this task independently.
- ☐B. I have received education or training but would need guidance to perform the task.
- ☐C. I have received little or no education or training in this task.

**END**

**DO NOT SEND ELECTRONICALLY. AN ORIGINAL SIGNATURE IS REQUIRED**